

**Notice of Allowability**

Application No.

09/836,125

Examiner

Aaron C. Perez-Daple

Applicant(s)

BAUTISTA-LLOYD ET AL.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 4/25/05.
2. ☒ The allowed claim(s) is/are 1-11,16-19,23-26 and 30-38.
3. ☒ The drawings filed on 23 June 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

JOHN FOLLANSBEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2103

### DETAILED ACTION

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with 6/22/05 on Paul Kriz (Reg. 45,752).

2. Claims 1-11, 16-19, 23-26, and 30-38 as amended below are allowed.
3. The Application is amended as follows:

In the Claims:

1. (currently amended) A method for providing data updates to a page, wherein the page includes multiple regions of dynamic content, wherein the regions and the page are displayed within a presentation program executing on a client, wherein a server transfers the page to the client over a network, and wherein the server performs:

detecting state changes;

queuing information on the state changes; by:

~~generating an update package including content indicating the detected state changes; and~~

~~sending the update package to the client, wherein the presentation program in the client renders the content in the update package in at least one region~~

i) maintaining one client session object for each client that has received one page; and

ii) maintaining a plurality of queues for each client session object to queue information on state changes rendered in the regions of the page, wherein a plurality of queues are associated with client session objects, and wherein the

plurality of queues associated with each one client session object include state change information for regions in the page sent to the client;  
receiving a refresh request from one client;  
determining the client session object for the one client submitting the refresh request;  
determining a queue from the plurality of queues for the determined client session object;  
returning to the requesting one client state change information from the determined queue to render in at least one region in the page by:  
    i) generating an update package including content indicating the detected state changes;  
    ii) sending the update package to the client, wherein the presentation program in the client renders the content in the update package in at least one region;  
    wherein the refresh request indicates one region in the page, and wherein determining the queue for the determined client session object further comprises:  
        determining the queue for the client session object that includes state change information for the region indicated in the refresh request.

2. (Original) The method of claim 1, wherein the update package is generated and sent to the client computer in response to a request from the client computer.
3. (Original) The method of claim 2, wherein the presentation program comprises a web browser and wherein the request comprises a HyperText Transfer Protocol (HTTP) request.
4. (Previously presented) The method of claim 1, wherein queuing information on the state changes further comprises:  
    maintaining one update queue for at least one region of dynamic content that is capable of being displayed in the presentation program, wherein the update

queue includes state change information to be rendered in the at least one region associated with the update queue.

5. (Previously presented) The method of claim 4, further comprising:  
providing an event listener capable of detecting state changes, wherein one event listener is associated with the update queue;  
detecting, with the event listener, a state change; and  
adding, with the event listener, information on the state change to the update queue associated with the event listener.
6. (Previously presented) The method of claim 5, wherein one event listener and associated update queue provide state change information for one instance of a component type, wherein the region associated with the update queue renders information in the client presentation program on the instance of the component type.
7. (Previously presented) The method of claim 4, further comprising:  
providing one servlet for each monitored component type; and  
instantiating, with the servlet, one event listener for each instance of the component type.
8. (Previously presented) The method of claim 4, wherein the at least one region and the corresponding update queue provide state change information for one component type.
9. (Previously presented) The method of claim 1, further comprising:  
receiving a client request for the page;  
generating a client session object for the client request; and  
generating an update queue array for the client session object including one update queue for the regions of dynamic content in the page.

10. (Previously presented) The method of claim 9, further comprising:  
receiving a client request for information on a requested component instance from  
one region of the page; and  
registering the client session with an event listener providing state change  
information for the requested component instance, wherein the event listener  
adds state change information to one update queue for the component type in  
the update queue array for the registered client session.
11. (Previously presented) The method of claim 10, further comprising:  
determining one event listener providing state change information to the update  
queue for an instance of the component type other than the requested instance  
of the component type; and  
submitting a request to the determined event listener to unregister the client  
session for the client submitting the client request.
12. (Canceled)
13. (Canceled)
14. (Canceled)
15. (Canceled)
16. (Previously presented) A system for providing data updates to a page,  
wherein the page includes multiple regions of dynamic content, wherein the regions and  
the page are displayed within a presentation program executing on a client, comprising:  
a processing unit;  
a network connection enabling the processing unit to transfer the page to the  
client over a network;  
a memory device; and

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a computer readable medium including code executed by the processing unit to perform:

- ~~(i) detecting state changes;~~
- ~~(ii) queuing information on the state changes in the memory device;~~
- ~~(iii) generating an update package including content indicating the detected state changes; and~~
- ~~(iv) sending the update package to the client, wherein the presentation program in the client renders the content in the update package in at least one region detecting state changes;~~

queuing information on the state changes in the memory device by:

- i) maintaining one client session object for each client that has received one page; and
- ii) maintaining a plurality of queues for each client session object to queue information on state changes rendered in the regions of the page, wherein a plurality of queues are associated with client session objects, and wherein the plurality of queues associated with each one client session object include state change information for regions in the page sent to the client;

receiving a refresh request from one client;

determining the client session object for the one client submitting the refresh request;

determining a queue from the plurality of queues for the determined client session object;

returning to the requesting one client state change information from the determined queue to render in at least one region in the page by:

- i) generating an update package including content indicating the detected state changes;
- ii) sending the update package to the client, wherein the presentation program in the client renders the content in the update package in at least one region;

wherein the refresh request indicates one region in the page, and wherein determining the queue for the determined client session object further comprises:

determining the queue for the client session object that includes state change information for the region indicated in the refresh request.

17. (Previously presented) The system of claim 16, wherein the processing unit executes the code to further perform:

receiving a client request for the page;  
generating a client session object for the client request; and  
generating an update queue array in the memory device for the client session object including one update queue for the regions of dynamic content in the page.

18. (Previously presented) The system of claim 17, wherein the processing unit executes the code to further perform:

receiving a client request for information on a requested component instance from one region of the page; and  
registering the client session with an event listener providing state change information for the requested component instance, wherein the event listener adds state change information to one update queue for the component type in the update queue array for the registered client session.

19. (Previously presented) The system of claim 18, wherein the processing unit executes the code to further perform:

determining one event listener providing state change information to the update queue for an instance of the component type other than the requested instance of the component type; and  
submitting a request to the determined event listener to unregister the client session for the client submitting the client request.

20. (Canceled)

21. (Canceled)

22. (Canceled)

23. (Previously presented) A system for providing data updates to a page, wherein the page includes multiple regions of dynamic content, wherein the regions and the page are displayed within a presentation program executing on a client, wherein a server transfers the page to the client over a network, comprising:

means for detecting state changes;

means for queuing information on the state changes by:

i) maintaining one client session object for each client that has received one page; and

ii) maintaining a plurality of queues for each client session object to queue information on state changes rendered in the regions of the page, wherein a plurality of queues are associated with client session objects, and wherein the plurality of queues associated with each one client session object include state change information for regions in the page sent to the client;

means for receiving a refresh request from one client;

means for determining the client session object for the one client submitting the refresh request;

means for determining a queue from the plurality of queues for the determined client session object;

means for returning to the requesting one client state change information from the determined queue to render in at least one region in the page by:

i) generating an update package including content indicating the detected state changes;



ii) sending the update package to the client, wherein the presentation program in the client renders the content in the update package in at least one region;

wherein the refresh request indicates one region in the page, and wherein determining the queue for the determined client session object further comprises:

means for determining the queue for the client session object that includes state change information for the region indicated in the refresh request.

~~means for detecting state changes;~~

~~means for queuing information on the state changes;~~

~~means for generating an update package including content indicating the detected state changes; and~~

~~means for sending the update package to the client, wherein the presentation program in the client renders the content in the update package in at least one region.~~

24. (Previously presented) The system of claim 23, further comprising:
- means for receiving a client request for the page;
  - means for generating a client session object for the client request; and
  - means for generating an update queue array for the client session object including one update queue for the regions of dynamic content in the page.
25. (Previously presented) The system of claim 24, further comprising:
- means for receiving a client request for information on a requested component instance from one region of the page; and
  - means for registering the client session with an event listener providing state change information for the requested component instance, wherein the event listener adds state change information to one update queue for the component type in the update queue array for the registered client session.

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26. (Previously presented) The system of claim 25, further comprising:  
means for determining one event listener providing state change information to  
the update queue for an instance of the component type other than the  
requested instance of the component type; and  
means for submitting a request to the determined event listener to unregister the  
client session for the client submitting the client request.
27. (Canceled)
28. (Canceled)
29. (Canceled)
30. (Previously presented) An article of manufacture for providing data  
updates to a page, wherein the page includes multiple regions of dynamic content that  
may be separately updated independently of each other, wherein the regions and the page  
are displayed within a presentation program executing on a client, wherein a server  
transfers the page to the client over a network, and wherein the article of manufacture  
causes operations to be performed, the operations comprising:  
detecting state changes;  
queuing information on the state changes by:  
    i) maintaining one client session object for each client that has received  
    one page; and  
    ii) maintaining a plurality of queues for each client session object to queue  
    information on state changes rendered in the regions of the page, wherein a  
    plurality of queues are associated with client session objects, and wherein the  
    plurality of queues associated with each client session object include state  
    change information for regions in the page sent to the client;  
receiving a refresh request from one client;

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determining the client session object for the one client submitting the refresh request;

determining a queue from the plurality of queues for the determined client session object;

returning to the requesting one client state change information from the determined queue to render in at least one region in the page by:

i) generating an update package including content indicating the detected state changes;

ii) sending the update package to the client, wherein the presentation program in the client renders the content in the update package in at least one region;

wherein the refresh request indicates one region in the page, and wherein determining the queue for the determined client session object further comprises:

determining the queue for the client session object that includes state change information for the region indicated in the refresh request.

detecting state changes;

queuing information on the state changes;

generating an update package including content indicating the detected state changes; and

sending the update package to the client, wherein the presentation program in the client renders the content in the update package in at least one region.

31. (Previously presented) The article of manufacture of claim 30, wherein queuing information on the state changes further comprises:

maintaining one update queue for at least one region of dynamic content that is capable of being displayed in the presentation program, wherein the update queue includes state change information to be rendered in the at least one region associated with the update queue.

32. (Previously presented) The article of manufacture of claim 31, further comprising:

providing an event listener capable of detecting state changes, wherein one event listener is associated with the update queue;  
detecting, with the event listener, a state change; and  
adding, with the event listener, information on the state change to the update queue associated with the event listener.

33. (Previously presented) The article of manufacture of claim 32, wherein one event listener and associated update queue provide state change information for one instance of a component type, wherein the region associated with the update queue renders information in the client presentation program on the instance of the component type.

34. (Previously presented) The article of manufacture of claim 31, further comprising:

providing one servlet for each monitored component type; and  
instantiating, with the servlet, one event listener for each instance of the component type.

35. (Previously presented) The article of manufacture of claim 31, wherein the at least one region and the corresponding update queue provide state change information for one component type.

36. (Previously presented) The article of manufacture of claim 30, further comprising:

receiving a client request for the page;  
generating a client session object for the client request; and  
generating an update queue array for the client session object including one update queue for the regions of dynamic content in the page.

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37. (Previously presented) The article of manufacture of claim 36, further comprising:

receiving a client request for information on a requested component instance from one region of the page; and

registering the client session with an event listener providing state change

information for the requested component instance, wherein the event listener adds state change information to one update queue for the component type in the update queue array for the registered client session.

38. (Previously presented) The article of manufacture of claim 37, further comprising:

determining one event listener providing state change information to the update queue for an instance of the component type other than the requested instance of the component type; and

submitting a request to the determined event listener to unregister the client session for the client submitting the client request.

39. (Canceled)

40. (Canceled)

41. (Canceled)

2. The following is an examiner's statement of reasons for allowance: The closest prior art of record, Lo (US 6,738,804 B1), teaches updating one or more regions of the page for a client, wherein the refresh request indicates the one or more regions of the page to be updated. Although some form of queuing is inherent to Lo for generating the updates, there

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is no inherent reason nor motivation for including the queuing structure which is specifically claimed by Applicant. That is, Applicant's claims recite maintaining one client session object for each client and maintaining a plurality of queues with state changes for each client session object. Furthermore, the refresh request includes information for determining which queue should be selected for generating the update package. Therefore, Applicant claims an improved system and method for updating multiple regions of a page.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

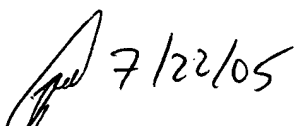
### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure for showing the state of the art. Lo (US 6,783,804 B1).
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron C. Perez-Daple whose telephone number is (571) 272-3974. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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